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Same-day and delayed reports of pain intensity in second-trimester medical termination of pregnancy: a brief report☆,☆☆,★

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Abstract

Objective: To assess same-day and delayed reports of pain intensity during and after second-trimester medical termination of pregnancy (MTOP).
Study Design: A prospective randomized trial (217 women) comparing 1- and 2-day mifepristone–misoprostol intervals.
Results: Women reported intense pain [median visual analogue scale (interquartile range)] related to expulsion of the fetus [6 (0–10)]. Delayed reports of maximal pain described the pain as more intense than same-day reports [8 (3–10) vs. 7 (1–10), p<.001].
Conclusions: Most women reported and readily remembered intense pain associated with fetal expulsion during second-trimester MTOP.
Implications: Adequate, properly timed pain management during second-trimester MTOP is crucial.

Keywords: Second trimester abortion; Medical abortion; Visual analogue scale; Pain; Recollection

1. Introduction

Medical termination of pregnancy (MTOP) is associated with more pain than surgical procedures performed under general anesthesia [1]. This pain becomes more intense with advancing gestation, and during second-trimester MTOP, the maximum pain has been moderate to severe [1–3].

MTOP is widely used, safe and very little dependent on the skills of the medical staff performing it [1,4,5]. Pain relief during the procedure needs attention, and studies on pain management during second-trimester medical TOP are sparse [6]. This study assessed pain intensity during or after second-trimester MTOP and delayed reports of pain 2–4 weeks after. Factors affecting the experience of pain were investigated.

2. Materials and methods

These data were derived from a prospective randomized trial of 227 women comparing 1- and 2-day mifepristone–misoprostol interval in second-trimester MTOP at Helsinki University Central Hospital between 2008 and 2010 [2]. The trial had approvals from the Ethics Committee of the Hospital District of Helsinki and Uusimaa, and the Finnish National Agency for Medicines.

MTOP was performed using a 200-mg dose of mifepristone and 400-mcg repeat doses of misoprostol. During misoprostol administration, women were in-patients until abortion. Pain during MTOP was managed with the following:

1. A prophylactic dose of oral paracetamol (500 mg) plus dihydrocodeine (10 mg) and ibuprofen (600–800 mg) with first misoprostol dose
2. First-line analgesics: ibuprofen (up to 1800 mg per day) on request

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★ Clinical Trial registration number: Controlled Trials (Web page: http://www.controlled-trials.com/ISRCTN09944151).
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3. Opioids on request: oxycodone hydrochloride (4 mg iv; 10 mg po), pethidine hydrochloride (50–75 mg) or tramadol hydrochloride (50–100 mg)
4. Ibuprofen up to a dose of 1800 mg per day at home on request

Pain was assessed using a numerical visual analogue scale (VAS) of 0 (no pain) to 10 (the worst possible pain one could imagine) before administration of each dose of mifepristone, misoprostol or analgesics. At a follow-up assessment (2–4 weeks after), VAS scores for pain at home and at the follow-up visit, as well as the use of analgesics at home were asked. The highest pain VAS scores were reported and classified into various time periods as follows:

1. Before first misoprostol dose (at the onset of first misoprostol dose)
2. Before fetal expulsion (during repeat doses of misoprostol)
3. Around fetal expulsion (30 min before and during fetal expulsion)
4. After fetal expulsion (10 min or more after fetal expulsion)
5. At home
6. At the follow-up visit

The women were asked to rank their satisfaction with the overall treatment of pain during MTOP with a scale of 4–10 (poor to excellent).

3. Statistical analysis

PASW 18.0 for Mac (SPSS Inc., Chicago, IL, USA) was used for statistical analysis. Nonparametric data are presented as medians [interquartile range (IQR)]. Differences in continuous variables were analyzed by using the Mann–Whitney *U*, Wilcoxon and Friedman tests, as appropriate. Statistical significance was defined as $p<.05$.

4. Results

This analysis involved 217 women, and one-fifth of patients did not attend the follow-up visit [2]. The 1-day mifepristone–misoprostol interval group had more women with previous vaginal deliveries, less evacuations of placenta and less repeat misoprostol doses than the 2-day group (Table 1).

Reports of intense pain were related to expulsion of the fetus (Fig. 1). The reported VAS scores before the first misoprostol dose or during repeat misoprostol administration were low, until shortly before fetal expulsion ($p<.001$). Similarly, after fetal expulsion, at home or at the follow-up visit, the pain VAS scores were low.

The maximal same-day VAS score [median (interquartile range, or IQR)] during second-trimester MTOP was 7 (5–8). However, the reported delayed maximal VAS score, queried at the follow-up visit, was higher [8 (7–10, $p<.001$)].

Table 1
Demographics of the 217 women undergoing second-trimester MTOP during 2008 to 2010

Variable	1-day[a] group, *n*=114 (52.5)	2-day[a] group, *n*=103 (47.5)
Weeks of gestation	15 (14–17)	16 (14–18)
Age (years)	24 (21–29)	23 (20–29)
Marital status		
Married or cohabiting	35 (30.7)	35 (34.0)
Single	79 (69.3)	68 (66.0)
Socioeconomic status		
White-collar workers	11 (9.6)	13 (12.6)
Blue-collar workers	40 (35.1)	37 (35.9)
Students	29 (25.4)	25 (24.3)
Others	34 (29.8)	28 (27.2)
Body mass index (kg/m^2)	23 (21–26)	23 (20–25)
Previous pregnancies		
Termination of pregnancy	54 (47.4)	44 (42.7)
Vaginal deliveries	38 (33.3)	25 (24.3)
Smoking	66 (57.9)	66 (64.1)
Indication for TOP		
Fetal	7 (6.1)	8 (7.8)
Social	107 (93.9)	95 (92.2)
Induction-to-abortion time (hours)	8 (6–12)	7 (5–9)
Evacuation of placenta during TOP (under general anesthesia)	29 (25.4)	39 (37.9)
Number of misoprostol doses before fetal expulsion		
1–3	61 (53.5)	38 (36.9)
4 or more	53 (46.5)	65 (63.1)
Route of misoprostol administration		
Mostly vaginal	106 (93.0)	95 (92.2)
Mostly oral or sublingual	8 (7.0)	8 (7.8)

Data are presented as *n* (%) or median (IQR).
[a] Mifepristone–misoprostol interval (per protocol).

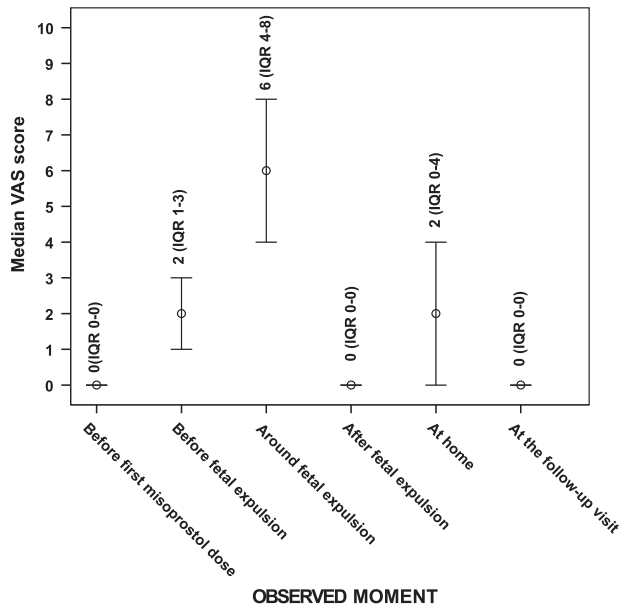

Fig. 1. Reported median pain intensity scores on a numerical VAS (VAS 0–10) among 217 women undergoing second-trimester MTOP. Data are shown as median maximum VAS scores and interquartile ranges at observed time points.

The effect of various demographic factors (Table 1) on reported pain was analyzed. Maximal pain VAS scores [median (IQR)] were higher among women under 25 years old compared to older women [7 (5–8) vs. 6 (5–8), p=.047], and in women without previous vaginal deliveries compared to those having previous vaginal deliveries [7 (5–8) vs. 5 (3–8), p=.002]. Maximal pain VAS scores were lower in the 1-day than in the 2-day mifepristone–misoprostol interval group [6 (5–8) vs. 7 (5–9), p=.038] and among women with the highest socioeconomic status (white-collar workers) compared to others [5 (3–7) vs. 7 (5–8), p=.006]. Also, women undergoing MTOP for fetal indications had lower VAS scores than women undergoing MTOP for social indication [4 (2–6) vs. 7 (5–8), p=.005].

None of the patients declined analgesics; few (9.2%) managed without additional opiates. The number of additional opioid doses [median (IQR)] was 2 (1–2). Most women (97.4%) found NSAID medication at home adequate and did not request opioids. Most women were satisfied with the treatment of pain on the ward, and the satisfaction rate [median (IQR)] was 8 (7–9).

5. Discussion

Women reported moderate to severe pain (median VAS over 6) associated with fetal expulsion during second-trimester MTOP. Based on questioning 2-4 weeks after the MTOP procedure, this pain is readily and intensely remembered.

This study provides new information on timing and risk factors for experiencing pain and the recollection of pain in second-trimester MTOP. However, in this secondary analysis, the analgesics and their dosing varied. The duration of pain could not be analyzed, and there is a small risk that the most intense pain scores are lacking. The study sample is too small to evaluate the impact of all demographic characteristics.

However, our results indicate that intense pain marks the point of fetal expulsion, and analgesics should be given frequently at that time. The finding of intense recollection of severe pain is worrying. How does this experience affect future plans for pregnancy and childbirth?

In conclusion, most women report moderate to severe pain during second-trimester MTOP. Thus, more intense and liberal use of analgesics during intense or increasing pain is needed. The more severe the pain becomes, the more difficult it may be to get it under control. Further studies are needed to optimize the prevention and treatment of pain.

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